DOCUMENT RESUME

ED 373 140 CE 064 966

AUTHOR	Batt, Rosemary; Osterman, Paul
TITLE	A National Policy for Workplace Training. Lessons from State and Local Experiments.
INSTITUTION	Economic Policy Inst., Washington, DC.
SPONS AGENCY	Ford Foundation, New York, N.Y.
REPORT NO	ISBN-0-944826-52-0
PUB DATE	93
NOTE	71p.
AVAILABLE FROM	Public Interest Publications, P.O. Box 229, Arlington, VA 22210.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Adult Education; Apprenticeships; Case Studies; Community Colleges; Community Organizations; Continuing Education; Cost Estimates; Economic Development; Educational Needs; *Educational Policy; Education Work Relationship; Employer Employee Relationship; Employment Programs; Entry Workers; Federal Programs; *Financial Support; *Industrial Training; Job Training; *National Programs; Outcomes of Education; Partnerships in Education; Policy Formation; Program Costs; Program Development; *Public Policy; School Business Relationship; State Federal Aid; State Programs; Taxes; Training Methods; *Training Objectives; Two Year Colleges; Unions; Vocational Education; Youth Programs
IDENTIFIERS	California; Illinois; North Carolina; South Carolina

ABSTRACT

Selected state and local experiments in developing/supporting workplace-centered training programs were analyzed to identify issues relevant to developing a national policy for workplace training. Intensive case studies of state economic development/training programs in California and Illinois and the employment and training programs provided by North and South Carolina's community college systems were conducted, and various joint training efforts involving unions, employers, local governments, and community organizations were reviewed. It was concluded that the federal government should fund a national training effort aimed at enhancing the skills of incumbent workers, states should be responsible for choosing the most effective means of administering federal training programs, and national training policy should focus on underserved groups and programs contributing to the establishment of strong employment and training systems. The importance of developing/implementing youth apprenticeship or school-to-work transition programs was emphasized. It was recommended that funding for a national training policy come from either general revenue or a dedicated payroll tax. The start-up funding required for a national training policy was estimated at $375 million, with subsequent funding levels of $2 billion annually thereafter. (Appended is a table summarizing 10 studies of the effects of skills/training on economic performance. Contains 49 references.) (MN)

ED 373 140

A National Policy for Workplace Training

Lessons From State and Local Experiments

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Lessons From State and Local Experiments

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1730 Rhode Island Ave., NW, Suite 200, Washington, DC 20036

ISBN 0-944826-52-0

The companion volume of case studies for this study, being published simultaneously, *Workplace Training Policy: Case Studies of State and Local Experiments*, is available through Public Interest Publications at 1-800-537-9359 or write to: PIP, P. O. Box 229, Arlington, VA 22210

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Acknowledgments

We would like to thank the following people for providing us with information and commenting on this report: Ted Anstedt, George Autry, Tom Bailey, Robert Bailey, Kathryn Baker Smith, James Bratt, Peter Cooey, Gordon Copeland, Sue Crow, Allen Davenport, Herb Dennis, Lois Dixon, Steve Duscha, Bob Forrant, Mary Ann Freedman, Evelyn Ganzglass, Dallas Garrett, Joe Giampa, Calvin Gillie, Jim Godwin, Marshall Goldberg, Norton Grubb, Mary Rose Hennessey, H. M. Holderfield, Sue Jackson, Glynda Lawrence, Lori McNeil, James Morris, Ben Munger, Kathleen Neeley, Russell Pratt, Karen Richards, Bert Richardson, Ken Ross, Stu Rosenfeld, Sandy Schugart, Ruth Shaw, Robert Sheets, Dennis Sienko, Joe Sturdivant, Robert Taylor, Don Treinen, Sharleen Wagner, Don Vial, Paul Warren, and Phail Wynn.

Design, Production and Layout:
Carol E. Pott
Publications Director - Economic Policy Institute

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ECONOMIC POLICY INSTITUTE
1730 Rhode Island Ave., NW, Suite 200,
Washington, DC 20036

Library of Congress Card Catalog Number
92-076128

ISBN 0-944826-52-0

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Economic Policy Institute gratefully acknowledges the support of the Ford Foundation for this project.

Part I

Executive Summary

American employment and training policy has long lagged behind the efforts of many of our international rivals.[1] In recent years however, concerns about America's international competitiveness have prompted an upsurge of interest in constructing a national training policy. A series of national commissions have recommended initiatives in education, school-to-work transition and adult training.[2] Recent publications by organizations such as the National Governors' Association and the National Commission on Employment Policy provide additional momentum.[3] A major new legislative initiative, the High Skills Competitive Workforce Act of 1991 (S1790), embodies many of these ideas.

Concerns about America's international competitiveness have prompted an upsurge of interest in constructing a national training policy.

This resurgence of interest and an accompanying willingness to experiment with diverse programs suggests that America is recognizing the role a well-trained workforce must play in any long-term plans for economic growth. However, the real question is whether this widespread interest can be translated into policies and programs that work. This, after all, is not the first era of enthusiasm about these issues. In the late 1950s and early 1960s concerns about unemployment and automation led to a series of initiatives, including the Manpower Development Training Act. However, these efforts soon evolved into the fragmented and often income-targeted programs which continue to characterize the federal system.[4]

Current reform efforts touch upon a wide range of concerns. For example, in the area of school-to-work transition the federal government and foundations are experimenting with implementing a modified German-style youth apprenticeship system in this country.[5] Improvements in traditional vocational education programs have occurred over time through the federally funded Carl Perkins Vocational Education Act. An important theme of school reform has been to increase the attainments of American youth relative to those in other

countries. Additionally, in 1992, the Bush administration proposed a number of reforms in the Job Training Partnership Act (JTPA) aimed at improving quality (although not intended to shift JTPA's goals in the direction of competitiveness themes).

The policy proposals on the table in some of these areas are well developed. However, we do not know very much about how to improve the skill levels of the incumbent workforce and the proposals dealing with this issue are not very concrete. In the limited instances in which commissions do propose specific plans—for example the concept of a training tax—they are put forward with little sense of how they have worked elsewhere.

This report draws on the experience of states to describe the opportunities and dangers which a national effort to enhance the training of adults would confront.

There are two primary reasons for problems in developing public policies for training the "mainstream" or incumbent workforce. First, in the United States most of the federal effort devoted to training policy has emphasized targeted programs aimed at the disadvantaged. Hence there is little national policy experience in the new area of training for competitiveness. Second, we know very little in general about how to design a labor market policy which works with employers and which can effectively alter employer behavior. Because the problem is so difficult, foreign models are less compelling than they are in other areas such as youth employment.

There is, however, an underused source of experience. During the past decade, state and local agencies have experimented widely with employment and training programs and these can provide the basis for thinking about restructuring federal policy. While recent state and local efforts are generally small and deal with only a piece of the problem, they do tend to share the general character of the current ideas for a new federal policy: they are not income targeted and they work directly with firms as well as with individuals.

This report draws on the experience of states to describe the opportunities and dangers which a national effort to enhance the training of adults would confront. We conducted intensive case studies of programs in four states and we reviewed the experience of others.

Our major findings and recommendations include the following:

- The federal government should fund a national training effort aimed at enhancing the skills of incumbent workers. The plight of workers at the bottom of the earnings distribution, and that of dislocated workers, as well as the fall in the global competitiveness of our industries make the case for a national employment policy stronger now than it has ever been. Training institutions have a critical role to play in supporting innovative workplace practices—both to improve the productivity and product quality of firms and to enhance employment security and income growth for individual workers.

- States should be responsible for choosing the most effective means of administering federal training programs. Currently, two viable administrative models exist: stand-alone agencies and community colleges.

- The guiding principles for a national training policy should be:

  to pay particular attention to under-served groups;

  to avoid subsidies to firms for training they would provide as a normal part of doing business; and,

  to focus on programs that are not only worthwhile in themselves, but that contribute to the establishment of strong local employment and training systems.

- Consistent with these guiding principles, federal funds should be allocated to those states which develop both targeting and systems-building funding criteria.

- Recommended targeting criteria for funding are the following:

  support for firms which would otherwise be unlikely to provide adequate training such as small and medium-sized firms;

  preference to programs which focus on the training needs of under-served groups such as economically disadvantaged and front-line workers in manufacturing and service industries;

  preference to training projects which incorporate workplace transformation objectives into project goals; and,

Federal funds should be allocated to those states which develop both targeting and systems-building funding criteria.

funding for training providers who adhere to state-developed uniform occupational training standards. Such standards should include a substantial component of general, as opposed to firm-specific skills.

- Recommended systems-building criteria for funding are as follows:

  support for the formation and growth of industry associations and regional networks of firms, unions, and government agencies to collaborate on training and other human resource objectives; and,

  encouragement of organized forms of employee voice and union participation in training and human resource development programs.

There should be encouragement of organized forms of employee voice and union participation in training and human resource development programs.

- The long-term skill base of the workforce can be enhanced by implementation of the youth apprenticeship or school-to-work transition programs now under active discussion but these programs will probably not address the needs of youth facing the greatest difficulties in school and in labor markets. Therefore, these apprenticeship programs need to be designed in the context of a broader education and youth employment policy.

- Funding for a national training policy should come from either general revenue or from a dedicated payroll tax. In our view the latter is preferred. In addition, serious consideration should be given to a grant/levy (or training tax) scheme under which training expenditure targets are established for firms that pay no tax if they meet the established goals. The advantage of this plan is that it is a relatively bureaucracy-free method of increasing training. However, the experience of other nations suggests such a scheme can harm small and medium-size firms who end up paying more into the system than they receive in return. This problem needs to be addressed before the program is implemented.

- Based on the successful model of California's Employment and Training Panel (ETP), start-up funding for a national training policy should run 375 million dollars with subsequent funding levels of 2 billion dollars a year. This figure is based on extrapolating 75 percent of initial funding and 100 percent of ongoing funding of California's ETP.

Introduction

This report is in four parts. This, the first part, summarizes our findings and lays out our recommendations for a national employment policy. The second part discusses the goals of a federal employment policy and why this type of effort is central to national economic growth and competitiveness. Part III synthesis lessons from our case studies to develop the arguments underlying our recommendations in more detail. In Part IV, we present our recommendations and conclusions. The case studies for this report (Rosemary Batt and Paul Osterman, *Workplace Training Policy: Case Studies of State and Local Experiments*. Economic Policy Institute, Washington, DC: 1993) are offered separately.

This report focuses upon the effort to improve the skills of adult workers by creating workplace-centered public training policies.

This report focuses upon the effort to improve the skills of adult workers by creating workplace-centered public training policies. We emphasize this aspect because it represents a substantial departure from employment and training as traditionally understood at the federal level and because there are important lessons to be learned from recent local experience.

Policy proposals for enhanced public attention to adult training have two characteristics which distinguish them from most prior federal efforts. First, because policymakers now perceive the issue of inadequate training as generalized throughout the economy, they are conceiving new programs to be broadly based and able to serve a wide range of clients—not simply persons below income cutoffs.

Second, many current proposals are workplace centered: they emphasize working with employers and treating firms as clients. This focus might take the form of assisting employers to train new hires or to retrain their incumbent workers in order to improve productivity and competitiveness. Training would occur in a range of areas including new technology, techniques such as Statistical Process Control (SPC), and literacy. Additionally, the workplace-centered approach may extend to providing support to firms that want to reorganize their production

systems in the direction of autonomous work teams and higher productivity arrangements.

Workplace-Centered Training

The rationale for making the employer the client lies in the productivity (as distinct from equity) goals of the proposals. Advocates believe that for training to improve productivity and competitiveness it must take place in the context of the employer's actual operations and be addressed to the production needs of firms. This is particularly compelling when the training is linked to changes in production systems, for example in the direction of more flexible work rules and greater use of teams.

Advocates believe that for training to improve productivity and competitiveness it must take place in the context of the employer's actual operations.

If one wants to work with a wide range of employers, helping them or encouraging them to improve the skill level of their labor force, then clearly the program must be able to serve persons well above the poverty line. This shift away from income targeting is the logical consequence of making the program workplace-centered.

A non-income-targeted employment and training policy which views employers as clients would be a considerable departure from current federal efforts. So isolated is the Job Training Partnership Act (JTPA) from employers that a Bureau of National Affairs (BNA) survey found that only nine percent of employers had any contact with JTPA (BNA, Personnel Policies Forum No. 140, p. 22). Furthermore, most federal job training programs are income targeted although some analysts have long viewed this as a major weakness of the system.

The Role of State and Local Programs

If one were to rely on national experience alone it would therefore be difficult to assess what is involved in mounting such a workplace-centered effort. In general the only experience that federal employment and training agencies have had in working with employers is in the context of income-targeted efforts such as subsidized on-the-job training (OJT), efforts which are typically aimed at a small subset of the employer population.

There is, however, another source of experience. During the past decade, state and local agencies experimented widely with employment and training programs, some firms and unions have designed innovative joint training programs, and there are a number of youth apprenticeship models underway. While these efforts are often small scale and do not fully represent the scope of current proposals, they do tend to share the general character of the current ideas for a new federal policy; that is, they are not income targeted and they are focused upon the worksite.

The experience of recent local experiments then, can help us understand the issues, the opportunities, and the traps which a possible national policy must face. Hence, the contribution of this report lies in bringing to bear a relatively underutilized source of data to an important group of concerns involved in designing such an effort.

The experience of recent local experiments can help us understand the issues, the opportunities, and the traps which a possible national policy must face.

Methodology

The past decade has seen many training initiatives and we had to be selective in the examples we used.[6] Our choices were guided by a concern to select positive examples of a variety of different strategies. We focused upon programs with good reputations because understanding the issues posed by the best cases seemed to be the most helpful way of thinking about developing a more general policy.

The programs examined are as follows:

- Recent efforts to adopt apprenticeship models to the American school-to-work transition;
- State-financed employment training programs in California and Illinois;
- Community college-based programs in North and South Carolina;
- Union/Management cooperative programs as exemplified by the Alliance for Employee Growth and Development negotiated by AT&T, the Communications Workers

of America (CWA), and the International Brotherhood of Electrical Workers (IBEW); and,

- Small firm collaborative network initiatives such as the Massachusetts Machine Action Project (MAP).

While there has been much discussion of youth apprenticeship schemes, very few efforts have been in place for long enough to gain a sense of their operation and hence in this area we were forced to draw upon scattered examples. However, with respect to state economic development/training programs we had greater options; in 1989, 46 states had 53 programs in place with annual budgets totalling $380 million (Creticos, Duscha and Sheets 1990). We chose two states whose programs are among the largest and best known—California with its Employment Training Panel (ETP) and Illinois with both the Industrial Training Program (ITP) and Prairie State 2000.

We focused upon programs with good reputations because understanding the issues posed by the best cases seemed to be the most helpful way of thinking about developing a more general policy.

An alternative is to base employment and training in a well-developed community college system and the South has led the way in this regard. We chose to examine the community college systems in North and South Carolina since they are among the largest and most developed. Finally, we chose two important initiatives which represent types of programs not always considered in these discussions. Unions and employers have undertaken a number of joint training efforts (often called "nickel funds"), and the AT&T, CWA, and IBEW Alliance program is among the most established of these. There is also growing interest in regional networks involving small firms in collaboration with local government, community and union organizations; the Massachusetts Machine Action Project was one of the early leaders.

Part II

Why Employment Training Policy?

There are several important justifications for renewed attention to federal employment and training policy. The traditional justification for federal employment policy has been

to target assistance to those groups who, for a variety of reasons, do not fare well in the labor market in order to create a fairer distribution of outcomes. This justification has continuing power. For example, the unemployment rate for out-of-school 16- to 19-year-old black teenagers with a high school degree was 25.6 percent in October 1990, while the rate for white teens was 8.8 percent. Poverty rates remain unacceptably high for all groups and are especially distressing for minorities. Any federal activity in employment and training must attend to these concerns.

What distinguishes the recent period, however, is that a consensus is developing that the case for an employment policy is broader. This consensus should not be seen as at the expense of the traditional concerns aimed at under-served groups but rather as creating the opportunity for a broader constituency for public action. If managed properly this broader constituency can help create a more effective policy for all parties.

The initial development of this broader base focused on the problems of dislocated workers. With the recession in the early 1980s large numbers of middle-aged, experienced workers lost their jobs with poor prospects for recall. Those who did find new work often did so at the cost of a substantial drop in earnings (Osterman 1988). Considerable interest developed in using public job training to ameliorate the situation. This interest continues both because of the perception that the labor market remains volatile (witness the oft repeated—but never documented—claim that most workers will have to change careers far more often than in the past) and because of continued shocks to the labor market such as those developing from foreign trade treaties, defense cutbacks, and environmental regulation.

The second, and broader element of the new case for employer-centered employment policy, concerns efforts to introduce new, high-productivity work systems in American firms and the view that the low level of training provided to American workers is an obstacle to this development.

The second, and broader element of the new case for employer-centered employment policy, concerns efforts to introduce new, high-productivity work systems in American firms.

In a world where firms in advanced industrial economies find it difficult to compete on the basis of low labor costs, U.S. firms must find other sources of sustainable competitive advantage such as technological superiority, product innovation, and quality goods and services. All of these alternatives to cost competition are thought to depend on having a high-quality labor force and organizational policies that allow human potential to be fully realized. This approach rests on the premise that higher skills and better utilization of human resources within the firm pay off in higher productivity, product quality, or other measures of economic performance.

There is considerable evidence that, compared to our competitors, American firms provide less training than is desirable.

There is considerable evidence that, compared to our competitors, American firms provide less training than is desirable. This evidence includes data from national surveys as well as matched comparisons of firms producing similar products in different countries (see Kochan and Osterman 1991 for a detailed review of this evidence). The best way of understanding why most American employers under provide training is to realize that training is just one element of a larger array of human resource practices. The traditional American approach has been to design production and human resource systems in a manner which minimizes the importance of skill. A small number of American firms have come to understand that this is not the most productive way of organizing work and these firms are moving in the direction of what might be termed a transformed model. The problem we face is that too few companies are making this transition.[7]

In the traditional system the workplace is organized around tight divisions of labor and narrowly designed, specialized jobs, with supervisors responsible for how the jobs are performed, how work is scheduled, and how workers are judged. Employee participation is limited, and clear detailed rules specified either in a personnel policy or a collective bargaining[8] contract determine the criteria governing career progression and the compensation associated with each individual job. Grievance procedures are the dominant mechanism

for employees if they believe their job rights have been violated in some way by the supervisor or by a management decision.

In contrast, in the transformed system, jobs are structured in a more flexible fashion that emphasizes the importance of direct employee participation, teamwork, skills training, and rotation across a diverse variety of jobs and organizational/career experiences. Workers in groups take on some of the responsibilities traditionally performed by supervisors, and responsibility for quality control is embedded in the individual's job or the work group rather than in a specialized quality control unit.

Improving skills increases the chances that workplace transformations will occur but in no way guarantees it.

It is in the public interest to encourage the transition from the traditional to transformed system because only through the latter system can sustained high wages be obtained. However, in order to understand what policies are possible we need to ask what are the barriers to firms adopting these more productive employment systems. It turns out that a number of these barriers can be addressed via an employment and training system.

First, the evidence seems clear that transformed systems require higher levels of skills than do traditional systems (Kochan and Osterman 1991). This implies that increases in the skill levels of workers would assist in the transition to more productive employment systems.

In making this statement it is important to understand that we are not claiming that training is all that is needed. The best way to think about this issue is to conceptualize increases in the skill level of the workforce, or of potential new hires, as reductions in the costs firms face should they wish—for other reasons—to adopt new production systems. In this view improving skills increases the chances that such transformations will occur but in no way guarantees it.

There are several reasons for adopting this view. Any theory of why firms adopt production systems must identify a number of factors such as worker voice, management values, and product market strategy as important influences. And,

indeed, those nations which have higher-skilled workforces and transformed production systems also differ from the U.S. on these other dimensions. Hence there is no reason to give skill any particular causal primacy. Indeed, there are reasons to think of it as secondary. Case studies of American firms which have chosen to move in new directions—firms such as Corning and Motorola—indicate that the decision to change came first and the firm then moved to train its workforce. Some international evidence also supports this view: Japanese youth do not leave school with high levels of vocational skills. Indeed, Japanese schools are known to be weak in vocational training. Rather the graduates are strong academically and firms then provide the vocational training. Again, vocational training follows, not leads, production systems.

Case studies of American firms which have chosen to move in new directions indicate that the decision to change came first and the firm then moved to train its workforce.

Another barrier to the adoption of transformed systems lies in a series of obstacles internal to the management of the firm. The case study of the Massachusetts Machine Action Project provides evidence of the difficulty some firms have in fully utilizing the skills of workers who have broadened and deepened their knowledge and skills. In some cases this is ignorance of the potential of new production arrangements or how to implement them. Clear examples of this come up as small suppliers try to adopt quality control systems at the behest of their larger customer firms. In addition, particular factions within management may oppose the changes out of fear of losing their power. Finally, the weak employee voice which characterizes many American firms means that the constituency for increased training is limited.

A public employment and training policy provides a potential lever in each of these areas. Implementation of new systems such as total quality management often requires a broad transformation of the production system. Firms which would be reluctant to let public authorities inside their doors, much less to take their advice with respect to human resource policies, will often be responsive when they can receive help in an area for which they are under pressure from customers.

Hence training—in this example in quality systems—becomes an entrée for the employment and training system to play a role in facilitating broader internal transformations. Some of the training projects funded by California's Employment Training Panel have played this facilitative role, as indicated in the case studies offered separate of this study (Batt and Osterman, 1993).

In a similar way, the incentives—financial and otherwise—provided by an employment and training system (for example underwriting certain training costs) can help to overcome internal opposition. Costs can be eliminated—or at least reduced—as a factor in the opponents' arguments. The information provided by the employment and training system as well as the best-practice examples of the actions of other firms—examples which can be deployed with good effect by the public authorities—can also overcome internal inertia.

The information provided by the employment and training system as well as the best-practice examples of other firms can also overcome a firm's internal inertia.

Finally, whenever possible, public funds can be used to strengthen employee voice. This can take the form of support for joint union-management training funds where they exist or encouragement of their creation in unionized settings. More optimistically, employee training councils in nonunion settings can be encouraged, as is done in Canada in the area of occupational health and safety.

The Demand For Training

To assess the demand for human resource development we need to ask two questions.[9] First what is the expected demand if the current distribution of human resource systems continues unchanged? Second, what would be the demand for skills if more firms adopted the transformed model which requires workers to be more highly skilled and gives them more decision-making responsibility?

Occupational projections provide the most conventional approach to addressing the first question. These projections based on data from the Bureau of Labor Statistics (BLS) Dictionary of Occupational Titles (DOT) show a modest upskilling over time and a continuation of this modest upward trend to the

year 2000 (Mishel and Teixeira 1991). The average GED[10] score in 2000 is expected to be 3.2 compared to 3.1 currently. This measure is limited, however, since it assumes the content of each job is stable and asks only about the mix of jobs in the economy. It will miss, for example, the fact that one strategy for upskilling machine operator jobs would be to enlarge these jobs to include working on computer numerically controlled (CNC) machines, thus requiring operators to have computer programming skills (Kelley 1989). It will also miss the efforts of employers to move to work teams and to place responsibility for quality control on production workers. These organizational changes require new skills in statistical process control, group dynamics, and problem solving that were less critical to production jobs in the traditional system. Thus, the difference between the projections offered by the DOT and the surge of employers concerned about skills may be explained by the fact that some employers see the content of these jobs changing in ways not captured by conventional BLS measures.

These employment projections show a modest upskilling over time and a continuation of this modest upward trend to the year 2000.

Another more indirect way of assessing the demand for skills is to look at wage data to see if there are changes in the returns to education. If education is a proxy for skills and returns to education are rising, then one can infer that the demand for skills is also rising. In the 1980s, for example, the gap between the earnings of college relative to high school graduates more than doubled (Blackburn, Bloom and Freeman 1989). There is also evidence of a widening dispersion of wages within educational categories and some have interpreted this as evidence for increased demand for skills beyond one's formal education (Katz and Murphy 1990). Moreover, recent research also shows that those with more education receive more formal on-the-job training and experience greater wage growth than those that start off from a lower educational base (Lynch 1990). Surveys of employers tend to show that they believe that the growth of new technologies, particularly microelectronic technologies, increases the demand for skilled workers but perhaps

more convincing is observational evidence of transformed human resource systems in operation.

Case studies clearly support the view that adoption of transformed human resource management and production systems require significant increases in training and skills. Consider, for example, the investments in training made in new Japanese auto plants in the U.S. Studies of the Mazda plant in Michigan and the Toyota plant in Kentucky suggest that training costs account for as much as 10 to 20 percent of the total capital required to make these facilities fully operational.

Case studies clearly support the view that adoption of transformed human resource management and production systems require significant increases in training and skills.

The recently opened Saturn Division of General Motors is perhaps the most extreme example of a transformed human resource system available in the U.S. today. All production work is organized into teams, participation is designed into the organization at all levels from the shopfloor to the executive offices, and strong employment guarantees are provided. The manufacturing system is designed to minimize inventories, decentralize decisionmaking and problem solving, and imbed responsibility for quality control within the production teams.

It should not be surprising, therefore, that training is an integral part of the Saturn organization. Training policy was included in the initial memorandum of agreement between the United Automobile Workers (UAW) and GM and training targets are part of the strategic plan of the company. Saturn's target is for each employee to spend five percent of his or her working hours in training once normal production is reached. In the start-up stage, operating technicians received approximately 300 hours of training while skilled trade technicians received between 450 and 700 hours of training.

Training is divided into six broad content areas: (1) health and safety; (2) quality control (just-in-time, experimental design, statistical process control, etc.), (3) technical training; (4) computer training; (5) job-specific training; and, (6) general training on subjects such as finance, creative thinking, jobs task analysis, math, listening, training for trainers, and

various personal interaction and group process skills. Individual teams play an important role in managing the training process. Teams devise a schedule to permit employees to receive training without disrupting production. Finally, each individual employee has an individual training plan that records the training received while at Saturn. These data, in turn, allow the training staff to track the extent to which the workforce has received the array of training programs offered at Saturn.

While there is likely to be an overall rise in the demand for skills in the economy, the magnitude of this increase in part depends on the pace of diffusion of transformed systems.

In short, occupational projections based on assumptions of stable job content suggest a modest upward trend in the demand for skills; labor market wage signals suggest an upward demand for skills in the 1980s; employers tend to believe that they will require a more skilled workforce in the future; and, evidence from case studies supports the hypothesis that transformed production and human resource management systems require significantly more training than conventional systems. Thus, while there is likely to be an overall rise in the demand for skills in the economy, the magnitude of this increase in part depends on the pace of diffusion of transformed systems.

The Payoff from Training

What is the payoff from training? In answering this question it is important to distinguish between individual and social returns. We know that the earnings of individuals increase as training increases but this does not necessarily imply that there is a social gain. We may simply be observing a game of musical chairs as the best-trained displace others but output does not rise. It is, however, difficult to distinguish these effects with the kind of individual survey data commonly available. Two alternative strategies are available. One approach is to introduce the education and training of the labor force directly into a production function and see if there is an increment in output associated with skill. The second strategy is to compare matched samples of firms which produce the same product using the same technology and observe whether firms with better-trained labor forces outperform others.[11]

The Appendix Table summarizes the key results from the studies available. Together these studies provide rather consistent and convincing evidence that (1) education and training are associated with significant productivity increases when their impact is examined in a production function context; and (2) training and associated flexible human resource systems are associated with higher levels of productivity and quality in matched comparisons. Moreover, these studies consistently conclude that U.S. firms provide less training and achieve poorer economic results than the comparison firms in other countries. Finally, a common result seems to be that Germany tends to achieve the highest level of performance. This too is consistent given the evidence that suggests Germany invests more in training than other countries, including the U.S.

An effective employment policy can help in enhancing competitiveness by overcoming a series of barriers that stand in the way of the adoption of transformed human resource and production systems.

Summary

There is now a three-pronged case for an expanded employment policy. The traditional argument concerning under-served groups remains strong. The problems experienced in the past and likely to be experienced in the future by dislocated workers are also compelling. Finally, an effective employment policy can help in enhancing competitiveness by overcoming a series of barriers that stand in the way of the adoption of transformed human resource and production systems.

Part III

Designing an Employment Policy: Guiding Principles

The foregoing developed the case for a newly invigorated U.S. employment policy. As a first step in that direction we will examine five principles which should guide such a policy. These are: building a strong system; supporting general as opposed to firm-specific training; providing equitable access; avoiding subsidies; and, promoting high-performance work systems.

Building a Strong System. A central goal of policy is building a strong system not simply developing isolated best-practice models. There are a great many examples in the field now of well-managed effective employment and training programs. The problem is that their impact is limited since they are not linked in a systematic way. At the federal level, categorical programs aimed at particular target groups often work through a variety of administrative systems. At the state level the worst case is constant bureaucratic warfare among competing programs and the best case is a passive division of labor which, however, creates no sense of a strong system (Grubb and McDonnell 1990).

A central goal of policy is building a strong system not simply developing isolated best-practice models.

A strong systematic approach is essential for several reasons. First, clients of programs—businesses and individuals—are less likely to use a fragmented system in part because they are simply unaware of how to access services and in part because what the system can offer is less impressive precisely because of fragmentation. The case of the Machine Action Project (MAP), for example, highlights how a fragmented system limits the ability of workers to develop a long-term strategy for skill upgrading and career development. Second, a fragmented system by virtue of its weakness is less able to respond to new needs and as a result, government is continually forced to create new programs and new agencies. In addition, a fragmented system is politically weaker and hence unable to generate a strong and continuing constituency for employment and training.

A deeper reason for attention to system building is that the central objective of these programs—augmenting employer-centered training to levels comparable to those of international competitors—is not likely to be achieved via particular programs. The scope of the problem is much too large. Instead, scarce funds should be expended to build institutions which outlive a particular project and which continue to address the issue after the project funds are expended. We will discuss below what some of these institutions might look like.

It may not be practical to advocate a straightforward consolidation of existing programs at either the state or federal level. However, it is certainly reasonable to argue that new initiatives be structured in a way which builds a system. This may involve privileging certain agencies or providers at the state and local level and building them up. Other strategies for system building are discussed below.

Support for General Training. Public policy should support general, not firm-specific training. General skills are those which are usable in a wide range of alternative employments while specific skills are only applicable to the current employer. Clearly general skills are more in the interest of individuals and will become more so as employment is less secure and job changing more common. With growing concern about the shortfall of firm-based training and the likelihood that many programs will work directly with employers and conduct training on-site, it is important to remain clear that the public interest lies in enhancing the long-term employment prospects of individuals. Hence a standard against which training should be judged is the extent to which it contributes to this goal.

Public policy should support general, not firm-specific training.

Equitable Access to Training. It is important to pay attention to the distribution of services. Many state-based training programs are relatively indifferent to serving individuals who face systematic difficulties in the labor market. This indifference arises in part because the goals of the programs are different—they often focus upon business attraction or retention—and in part because of the perception that the true clients of these programs (firms) will avoid participation if the programs pay particular attention to under-served groups. These biases are likely to be strengthened by the current tendency toward employer-based training.

There are a number of reasons why concerns for programs aimed at under-served groups should remain important. First, from the national public policy perspective scarce dollars should be directed, in important measure, to individuals most in need. Second, as we will note momentarily, a real concern

about many programs is their tendency to subsidize what firms would otherwise do on their own. By contrast, service to under-served groups is less likely to face this difficulty.

Attentiveness to under-served groups does not mean the extreme of income targeting. Distinct means-tested programs are indeed subject to the criticism that they repel employers and stigmatize their clients. The objective is rather to insure that these considerations are attended to within broader-based programs which necessarily serve a wider clientele.

Programs should avoid providing simple subsidies to employers and hence substitution issues must be considered.

Avoiding Subsidies. Programs should avoid providing simple subsidies to employers and hence substitution issues must be considered. Many of the state programs began as efforts to attract employers from other states. This often entailed training subsidies with no attention to whether the firms should, or would, pay the costs themselves. Whether or not these efforts make sense for a state, they clearly are not in the federal interest. The problem is that any locally managed program carries with it strong temptations to accede to the requests of employers for help. These requests, sometimes accompanied by threats to relocate or reduce employment expansion, are hard to resist. Again, the risk is heightened by the growing emphasis on employer-based training. The solution is not to preach against such activities but rather to build restraints into the very structure of the programs—its targeting, the kind of assistance it can offer, and its performance standards.

Promoting High-Performance Work Systems. Employment policy should aim at broader objectives than simply enhancing skill levels of individuals. As we discussed above, training itself does not guarantee that firms will adopt high-performance/high-commitment work systems. Training is an important entree for public policy and an important element of any transformation, as is shown in the studies of MAP and the state systems. It is also a useful forum for efforts to improve industrial relations, as the AT&T, CWA, and IBEW Alliance case documents. However, to achieve these broader objectives policymakers need to be aware of them and build them into

their performance standards. These objectives are also a defense against the subsidy/substitution concern since the outcomes are less likely to have occurred without public intervention.

Entry Training

The employment difficulties facing American youth have long been at the center of labor market policy. In the early 1960s the initial emphasis of the Manpower Development and Training Act upon "mainstream" adults was quickly shifted to a focus on inner-city youth. Much, if not most, of the job training associated with the war on poverty aimed at youth with Neighborhood Youth Corp, the Job Corp, and the summer jobs program leading the way. The expansion of the Comprehensive Employment and Training Act (CETA) in the 1970s consisted of Public Service Employment, on the one hand, and the Youth Demonstration Projects Act on the other. In recent years youth have had to compete with welfare recipients for resources but young workers still receive a substantial fraction of attention and funding.

Since training itself does not guarantee that firms will adopt high-performance/ high-commitment work systems, employment policy should aim at broader objectives than simply enhancing skill levels of individuals.

Although often characterized as youth programs, in fact these interventions were more specialized and were aimed at poor, often minority youth. Federal employment and training policy has a strong targeted distributional focus. Lip-service has been paid to more general labor market concerns but the bulk of resources and attention has been centered on the bottom of the labor market. Indeed the central statistic which drove the discussion was the high unemployment of inner-city minority young people.

However, in the past decade or so there has been a subtle shift in emphasis driven by the increasing concern about competitiveness and skills. Although no one would profess disinterest in the problems of inner-city youth—and a vigorous discussion of these difficulties has been incorporated in the debate around the under-class—more attention is being paid to the broader group of non-college young people.[12]

At the same time that we consider these new concerns it is also important to understand that the older issues of racial differentials in youth employment remain important. In October 1990 among high school dropouts aged 16-24 only 29.3 percent of blacks and 57.4 percent of whites were employed, and even among high school graduates only 56.4 percent of blacks and 79.3 percent of whites had jobs.

As noted earlier, programs targeted to inner-city poor youth have long been at the center of federal youth policy. Unfortunately, the evidence from evaluation research does not lead to optimistic conclusions about the effectiveness of these efforts (see Osterman 1991 for a review). Therefore, our emphasis will be upon the newer proposals aimed at transforming the American school-to-work transition process.

There has been a substantial flurry of American activity intended to set the stage for new forms of apprenticeship in this country.

There has been an explosion of interest in new ideas recently, inspired in part by growing awareness of the German system. The dual model in Germany exposes the vast majority of high school students to high-quality vocational education inside of enterprises. Students work three or four days a week, attend school the remaining time, and at the conclusion of the program take nationally recognized tests in their occupational field. The German dual model is attractive because it appears to represent a balance between firm- and school-based training. In addition, all observers agree that the quality of training is high. For these reasons, and because there appears to be a correlation between the dual system and German productivity, the recent American discussion has centered around efforts to transplant the German model here.

There has been a substantial flurry of American activity intended to set the stage for new forms of apprenticeship in this country. Numerous national conferences have been held and the U.S. Department of Labor's Office of Work-Based Education has underwritten a number of demonstration programs as have several national foundations. The ideas put forward include fairly modest work-study efforts, programs which link high school with community college curricula, and a nearly literal

adoption of the German system. Most typically these efforts call for having high school students spend some time at worksites receiving training in a particular occupational field, modifying the high school curriculum so that it builds upon that training, and encouraging the students to continue a combination of work and school after graduation.

What should we make of these various efforts? At the broadest level these proposals are attractive because they speak directly to the inadequate skills which American youth bring to the workplace and they do so in a way that promises a structural reform of the school-to-work transition process. It is for these compelling reasons, because the initiatives seem a way both to escape from the trap of remedial programs and to make a substantial shift in old patterns, that the ideas have caught on so fast. Nonetheless, it does seem important to probe a little deeper at both the level of principles and of practicality.

Americans are highly mobile and any apprenticeship program must lead to credentials which are recognized throughout the country.

One of the major strengths of the American entry system is the many opportunities it gives young people to experiment and to change their minds. A second strength is its lack of tracking relative to European systems. Both of these advantages are at risk in a German model. It is very hard to imagine Americans willing to accept a system which requires most youth to select occupations in the 10th or 11th grade.[13] To complicate matters further, even if such a selection were made, the system would have to be designed to accommodate the enormous amount of mind-changing which would ensue (such second thoughts are not a central part of the German system).[14] This means that large-scale programs would find it difficult to specialize the occupational training or the classroom elements since everything would have to be transferable.[15] Absent this specialization, the program begins to look more like work experience and less like serious apprenticeships.

A related problem concerns portability. Americans are highly mobile and any apprenticeship program must lead to credentials which are recognized throughout the country. This difficulty is exacerbated by the highly decentralized structure of

American education which means that the new apprenticeships have to be organized on a district by district basis. We are a long way from the German uniformity of 400 recognized occupations and standard national examinations.

Inducing Change at the Firm Level

An additional concern is whether firms can be induced to cooperate and offer apprenticeship openings. After all, if firms do a poor job of providing quality training to their incumbent workforce—and most observers agree this is a problem—why should we expect them to do a good job for youth in apprenticeship programs?

An additional concern is whether firms can be induced to cooperate and offer apprenticeship openings.

This question in fact has two parts: whether the openings will be made available and whether quality training will be provided. In Germany the national culture demands provision of training slots. Furthermore, firms have geared their production system around these slots with large firms having training staffs and small firms counting on apprentices to help with production. The staff of employers have themselves gone through the program and hence are committed to the system and to quality training. Virtually none of the above applies in the United States. Employer motivations would either be public service or perceived labor shortages. Both are weak foundations upon which to build a fundamental transformation: imagine what would be the current status of a program in New England if apprenticeships had been set up eight years ago motivated by expected labor shortages in real estate and financial services.[16] In addition, even if the chief executive officer committed him/herself to a given number of slots, the quality of that experience rests upon the behavior of supervisors and it is hard to see how mass production of quality training within firms can be assured.

Britain's Youth Training Scheme (YTS) is an example of how quality problems can arise when the German system is transplanted abroad. The YTS—consciously modeled on the German approach—established a two-year training/school period to follow graduation from the existing school system and

was implemented on a large scale. However observers are very critical of the quality of training (Dore and Sako 1986; Marsden and Ryan 1990) and tend to see it largely as an effort to prevent youth unemployment and provide low-wage workers to employers.

A related concern is how firms would be compensated for the costs of training. In Germany apprentices are paid, but at rates very much below those of regular workers. Indeed, according to some estimates 16-year-old German apprenticeships are compensated at 20 percent of the adult rate and 18-year-olds at 33 percent (Casey 1986, p. 66). Because the youth are actually part of the production system, particularly in small firms, employers find the system worthwhile. American proposals tend to be silent on the issue of pay and the related issue of how to compensate firms for the costs of the training they provide. This issue is likely to exacerbate concerns about quality discussed above.[17] In addition, the need to provide productive youth to employers as part of selling the program precludes targeting those most in trouble: people with very low academic skills who either have, or may be about to drop out. Furthermore, despite much effort no youth employment program has proved to have much effect on dropouts.[18]

We believe that these school-to-work programs are worth pursuing on an experimental basis.

The foregoing material described the concerns and difficulties which seem to us likely to arise in a large-scale implementation of the new apprenticeship-like school-to-work transition models. While we do think that these concerns are serious, we also believe that these programs are worth pursuing on an experimental basis (as, indeed, is being done). The reasons for testing this model are that:

- Some youth have such strongly formed career preferences that concerns about tracking and overly early choice are not salient;
- The program may tilt the balance for some youth in favor of staying in school, and in particular continuing to post-secondary education instead of directly entering the labor market after high school; and,

- The programs may provide an additional handle, or entree, for public policy on the broader question of school reform.

In our view the best programs will:

- Assure that students are not tracked and that they have ample opportunity not only to make choices but to change their minds;
- Design training standards for occupational tracks both to help assure quality and to improve portability;
- Assure that the work component involves genuine skill training and not work experience, "make work," or low-wage subsidies to firms;
- Assure that the youth involved in the program do not displace adult employees; and,
- Place considerable emphasis upon continuation to higher education after high school.

These apprenticeship programs are not a comprehensive solution to the youth employment problem.

Programs which attend to these considerations should be encouraged. At the same time it is also important to emphasize that these apprenticeship programs are not a comprehensive solution to the youth employment problem. They are unlikely to do very much for dropouts or youth with very poor prospects.

To help these young people, substantial interventions in schools will be necessary. Furthermore, the evaluation evidence on GEDs strongly suggests that alternative out-of-school efforts do not pay off,[19] and this raises doubts about proposals for alternative out-of-school education and training programs for out-of-school disadvantaged youth. Instead, genuine improvements in the education system will be necessary.

Further Training for Adults

Although the consensus view is that America under trains relative to its international rivals, there is, nonetheless, very substantial private sector spending on training for adults.[20] Any new federal initiative would be small relative to this, and its effectiveness as public leverage is therefore not clear. Even

Europeans, with their much more developed employment and training systems, have been less than fully successful in finding public policies to enhance adult training.

However, as we argued in the first section of this report, there are good reasons to search for effective public policies to enhance adult training. As the basis for this report, we examined four possible approaches:

- Programs inspired by state training/economic development efforts such as those in Illinois and California;
- Community college-based efforts, as in North and South Carolina;
- Private union/management initiatives, as illustrated in the AT&T, CWA, and IBEW Alliance; and,
- Locally-initiated small-firm collaborative networks, exemplified by the Massachusetts Machine Action Project.

A number of innovative union-management agreements have established successful joint-training programs. It is important to examine this model because it tests the benefits of enhanced employee voice on training issues.

The cases represent best-practice examples of alternative delivery approaches for enhancing adult training. Within the public sector the two most prominent models are stand-alone state agencies (represented by Illinois and California) and community colleges (represented by the Carolinas). As we discuss below, each structure has its advantages and disadvantages and the choice between them needs to be carefully considered.

In addition to these governmental strategies, in recent years important alternative mechanisms for delivering training to incumbent workers have proliferated. A number of innovative union-management agreements have established successful joint-training programs. It is particularly important to examine this model because it tests the benefits which might be gained from enhanced employee voice in the workplace on training issues. We therefore chose to study the Alliance program in the telecommunications industry.

Finally, at the intersection of the training and economic development fields, there is growing interest in networks of

small firms working cooperatively with local governments and educational institutions. This interest has been fueled by what appears to be successful foreign models and a number of state governments have experimented with programs. The Machine Action Project in Massachusetts is one of the oldest efforts and forms our final case.

State Training Programs

Nearly all states have in place training programs which are financed entirely from state revenue sources.

As we have already noted, nearly all states have in place training programs which are financed entirely from state revenue sources.[21] These programs have varied origins. Most began as smokestack chasing efforts intended to offer subsidies, in the form of reduced training costs, to firms which located or expanded in the state. Others, such as the California Employment Training Panel (ETP), were originated as responses to the difficulties in placing dislocated workers while yet others, such as the various state "skills" corporations (which were modeled after the Massachusetts Bay State Skills Corporation) were aimed at linking the educational establishment more closely to the training needs of firms. In recent years as policymakers have become more skeptical of smokestack chasing, they have reoriented programs towards retention and expansion of existing firms. However, there always remains strong temptations to revert to the older strategy.

These programs also vary in their funding mechanisms. Most are paid for out of general state revenues but there are also some notable innovations. For example, California as well as other states utilize a training tax levied against payroll,[22] while Iowa uses revenue bonds. We will return in a later section to a discussion of the merits of alternative funding systems.

California Employment Training Panel

California's Employment Training Panel began in 1983 as a state-wide effort to train unemployed workers and retrain potentially displaced workers in "at-risk" firms and industries. An unemployment insurance surtax of 0.1 percent of taxable

wages generates a multi-million dollar fund that was capped at $55 million annually until 1989, when the cap was removed. The 1991 ETP budget totalled over $150 million. Between 1983 and 1991, the Panel enrolled 160,000 trainees in over 1,000 training contracts worth $300 million.

The unique features of the system are its employer-driven quality, its strong support and involvement of unions, its heavy reliance on private training providers, and its strict performance-based contracts which link reimbursement to 90-day job placements of trainees.

In the course of its history, ETP has confronted many of the issues that are central to a national debate over employment policy. The program has had a controversial past and faces an uncertain future. Currently the ETP community—of policymakers, training providers, employers, private consultants, unions, educators, and program administrators—is undergoing a period of reflection and seriously rethinking what a state employment policy should look like.

Should a program be equally responsive to the demands of various constituencies and fund projects on a first-come first-serve basis or should it target particular sectors, regions or firms?

The California debate is instructive in several respects. At the center of the debate is an examination of the goals of the program: should it be equally responsive to the demands of various constituencies and essentially fund projects on a first-come first-serve basis or should it develop a strategic approach to training that targets particular sectors, regions or firms? What should be the goals of the program with respect to the overall California employment and training system?

A number of more specific issues emerge from these questions. One issue concerns whether ETP should continue as a contract-based system favoring private training providers and administered through a centralized panel of decisionmakers. The flexibility of relying on private training providers is offset by their relative high cost compared to community college educators, who in some cases have proven to be as flexible and effective as the private sector. Moreover, while a centralized approval mechanism may enhance consistency and quality, it has more recently caused serious delays in project approval and implementation.

A second issue is distributional. Who should be the beneficiaries of an employment training program? While ETP was originally geared to solve unemployment problems, over 90 percent of funds have supported retraining for currently em-

ployed workers. Large firms have participated more than small firms, and union workplaces more than nonunion. In sum, the bulk of ETP has funded employer-based programs in large firms under contract with private consultants to retrain skilled blue- and white-collar workers. Critics have questioned the extent to which ETP simply subsidizes training that would otherwise be provided.

This leads to the third issue of accountability. The original ETP legislation tied reimbursement to 90-day job placements for trainees; this performance standard was, and continues to be, considered rigorous for new-hire programs. It is inadequate, however, for retraining programs that require some measure of productivity gains associated with retraining. California policymakers are actively pursuing the development of industry- and firm-specific standards for measuring the effectiveness of training.

The bulk of ETP has funded employer-based programs in large firms under contract with private consultants to retrain skilled blue- and white-collar workers.

A fourth subject of debate is over the degree to which state and federal employment programs should be integrated or coordinated at the local level. California has not attempted such integration in the past; but many now feel that the fragmentation and duplication in the system must be remedied. See Case I, in the case studies offered separate of this study for a further discussion of the history of ETP and the policy debates (Batt and Osterman, 1993).

Illinois: The Industrial Training Program (ITP) and Prairie State 2000, Employer Training Assistance Program (ETAP)

The state of Illinois has funded two complementary employment training programs: the Industrial Training Program (ITP), established in 1979 to attract capital investment in the state; and Prairie State 2000, begun in 1983 to provide training to at-risk workers and at-risk firms. Between 1979 and 1990, ITP spent $106 million on training programs for 130,000 workers in 700 firms. The smaller Prairie State program funded $6 million in training for 330 firms involving 33,000 workers.

ITP has primarily provided training for large firms that invest in new plant and equipment within the state; grants not

associated with new capital investment have funded training in small and medium-sized firms in recent years. The 1990 budget of $33 million represented the largest historic commitment of the state to this industrial training program. By contrast, Prairie State 2000 has a total budget of $1 million, which it spends in a combination of grants and loans to support training in small firms in financial difficulty that need to restructure technology and production organization to remain competitive. Through 1991, costs per trainee averaged $729 for ITP and $177 for ETAP. Both programs cover 50 percent of the costs of training, thereby serving as an incentive for employer investments in training. Employee salaries are reimbursable under ITP, but not under Prairie State 2000. In 1992, the Illinois state legislature cut funding for ITP and significantly increased funding for ETAP.

Like California, both programs rely heavily on employer definitions of needs, worksite-based training, and alternative private training providers. Issues raised by these state programs include the relative distribution of funds to small versus large firms and the substitution of public funds for private training dollars. The state has responded to these issues by beginning to establish objective performance criteria for program evaluation. Case I in The case studies offered separate of this study gives a fuller description of the Illinois programs (Batt and Osterman, 1993).

In each, the state has funded endeavors which underwrite training, and even transformations, which would have not otherwise occurred.

For our purposes the question to ask of these programs is the following: could a pool of flexible money available to encourage training and other human resource transformations be put to good use and achieve these objectives?

In the case studies the profiles of the California and the Illinois programs provide examples of enough positive cases to indicate that the answer is clearly "yes" (Batt and Osterman, 1993). In each, the state has funded endeavors which underwrite training, and even transformations, which would have not otherwise occurred. These examples include:

- The Los Angeles Chapter of the National Tooling and Machining Association, which has increased pre-employment training for machinists by tenfold as a result of funding from the California ETP. Additionally, it has expanded to provide

retraining programs for machinists in computer numerically controlled (CNC) equipment operation and repair.

- ETP programs operated by Glendale Community College, which assist small businesses in transforming their office automation systems and train clerical and managerial staff to use the systems. Between 1986 and 1991, Glendale served 4,000 businesses, trained 800 new hires, and retrained 7,000 employees.

- In Illinois, the Prairie State 2000 Authority has provided training assistance to small manufacturing firms through a regional employers' association, the Management Association of Illinois (formerly Midwest Industrial Management Association (MIMA)), in order to bring about quality and productivity improvements in response to changing customer demands.

The relative flexibility of the state programs, their lack of rigid income targeting, and the familiarity of local administrators with the needs of firms lead to results.

These examples are important because they provide clear evidence that there are benefits to be gained by providing training resources of the sort available in these state programs. The relative flexibility of the state programs, their lack of rigid income targeting, and the familiarity of local administrators with the needs of firms lead to results which compare favorably with what is possible under current federal efforts.

Although these state programs have worked well in a number of instances, there are some cautions which lie in the way of simply advocating replication of these programs on a large scale. For example, a national program must be concerned with issues not usually dealt with on the state level such as: avoiding subsidies, integrating disadvantaged workers, developing stable programs, and maximizing the systems-building potential of the programs. Each of these is covered in detail below.

Avoiding Subsidies. Although the programs are shifting away from pure smokestack chasing, important elements of this orientation remain. For example, critics of California's ETP have charged that the state bankrolled large training contracts for firms without clear evidence that the training served potentially displaced workers, as required by law (Inman 1990).

Critics of Illinois' Industrial Training Program have also charged that the state has favored a few large manufacturers that have made heavy capital investments. Of more concern is the general lack of procedures to avoid substitution of public for private resources. In the past, and even in most cases now, the programs were evaluated simply by asking whether the training actually occurred. More recently, the state has asked firms to develop quantifiable measures of the impact of training on performance. But even now, there are no procedures in place to ensure that funds underwrite activities which would not otherwise have occurred.

There are no procedures in place to ensure that funds underwrite activities which would not otherwise have occurred.

There are several signs that state policymakers are aware of this problem. In California, legislation reauthorizing the ETP required ETP to target funds for regional growth industries, occupations and labor markets. The legislature emphasized the need to increase funding for small businesses. Further, for large firm contracts, the state now requires larger in-kind contributions from employers and the development of productivity measures associated with ETP training.

In Illinois, the state has increased resources for Prairie State 2000 relative to those allocated to ITP. By virtue of its emphasis on serving small firms and firms which are losing money, Prairie State 2000 is more likely to support activities which would otherwise not have occurred. Prairie State 2000 likewise requires matching contributions from participating firms. In addition, several states are participating in a project supported by the National Commission for Employment Policy and the National Governors' Association aimed at developing ways to measure the impact of these state programs on workers.[23]

These are all positive signs, but they must nonetheless be read with caution. First, not all states are as sophisticated about these concerns. Second, in the end it is very difficult for a political leader with access to these flexible funds to resist granting training funds to firms which claim that, unless they receive support they will relocate or shift employment else-

where—even when it appears that such grants would comprise outright subsidies. Any federal effort should be designed in a way which sharply restricts the opportunity to respond to these pressures.

Integrating Disadvantaged Workers. The state programs tend to be unconcerned with, and even hostile to, helping under-served groups. In part this is because they view firms as their clientele and fear, rightly or wrongly, that employers will be uninterested in a program which seeks to influence the hiring or retraining pool. Because of this hostility and because of the constant efforts of policymakers and bureaucrats to create new structures, employment training programs are often set up as bureaucratically separate from the Job Training Partnership Act (JTPA) or Job Opportunities and Basic Skills training program (JOBS) agencies and hence develop competitive relationships.

Firms which use program funds to upgrade current employees could be encouraged to broaden their hiring pool as they backfill new hires.

From a federal perspective, assistance to under-served groups is more important than it is to the states or to private firms. Furthermore, at least for new-hire training, it is not hard to think of ways to build these concerns into programs without fundamentally changing the program's character. Closer links with JTPA and JOBS efforts could provide feeder pools so that a reasonable share of new hires are drawn from historically disadvantaged groups. Firms which use program funds to upgrade current employees could be encouraged to broaden their hiring pool as they backfill new hires. The integrated North Carolina system provides a model for mainstreaming JTPA students in customized training programs as well as providing special developmental programs to students in curriculum programs for review of basic skills. The Machine Action Project (MAP) case is suggestive of strategies that improve the chances for disadvantaged groups to succeed in training programs for non-traditional skilled occupations.

Developing Stable Programs. The state programs, when they are state financed and state managed, tend to be vulnerable to political cycles. Programs come in and out of favor based

less on objective criteria and more on their association with particular political leaders or parties. In some cases funding levels or administrative procedures change substantially while in other instances the programs are abruptly terminated. Employers are already wary of dealing with public authorities on internal human resource issues and the instability created by these cycles adds to the difficulty of generating private sector interest. Moreover, during economic recessions, when employers and workers are more likely to need public support for training and retraining, states are under greater fiscal pressure to cut funds for such programs.

Maximizing the Systems-Building Potential. In the final analysis most of these state programs are very small.[24] Their small size, when combined with the instability noted above, makes them a shaky base upon which to build a large-scale national training initiative.

In short, the central lesson of these state programs is that the availability of flexible support for training does provide a lever by which public policy can increase the amount of training which takes place in the private economy and also influences the direction of large human resource systems. At the same time, the limitations of these programs, particularly around the subsidy/substitution issue and the lack of attention to underserved groups, hold important lessons for any larger-scale federal effort.

The limitations of these state programs, particularly around the subsidy/substitution issue and the lack of attention to underserved groups, hold important lessons for any larger-scale federal effort.

Community College Systems

The state training programs discussed above represent one model for governmental encouragement of further training. As noted, these programs are usually in separate agencies created for this purpose and tend not to be closely related to larger existing agencies either in training or in education. An alternative approach is to build upon what in many states is a large, well-developed community college system.

Community colleges have sharply grown in past decades; and in 1991, enrollment grew at eight percent while overall enrollment in four-year public and private institutions grew at

only one percent. Of the nation's 14,157,000 students enrolled in higher educational institutions in 1991, 5,334,000 were students in community colleges (DePalma 1992). Although many systems began as transfer programs into four-year colleges, by now most are vocational: 75 percent of students who name their field are vocational and 75 percent of all Associate in Arts degrees are vocational (McDonnell and Grubb 1990, p. 39). Although there are sources of concern about the overall quality of community colleges (for example, 42 percent of enrollees drop out without a degree (McDonnell and Grubb 1990, p. 41) the evaluation evidence of the rates of return to community colleges is positive.[25]

A reasonable strategy is to build upon the existing community college system and to funnel employment and training programs through it.

Community colleges have become quite entrepreneurial with respect to their role in training adults. In addition to regular degree programs many community colleges provide non-degree short courses for adults and also engage in so called "contract training" in which they work for firms in providing training for the labor force. Community colleges in other cases have served as the home for small business training consortia and local economic development programs.

As this sketch suggests, a reasonable strategy is to build upon the existing community college system and to funnel employment and training programs through it. This represents a viable alternative to the creation of new independent agencies. In order to understand the pluses and minuses of this approach, we examined the community college systems in North and South Carolina, two states which have followed the strategy of using the community college system as the centerpiece of their training strategy.

North and South Carolina Community College Systems

In contrast to California and Illinois, North Carolina and South Carolina provide examples of integrated technical training systems operated through the community college system. Begun in the late 1950s and early 1960s as industrial training programs to attract Northern manufacturers South, and supported by the federal Manpower Development and Training Act,

these systems are unique in several respects: their reliance on the public sector to administer and operate programs; their use of employers to define the content of customized training which frequently "spills over" into the basic college curriculum; their labor market orientation; their comprehensiveness in meeting the needs of diverse employers, industries, and workers; and their integration of an array of state and federal programs under one system.

The two systems are more alike than different. North Carolina has a more massive system with a decentralized structure which gives local colleges more decision-making power. South Carolina has a more centralized structure, and in the last decade, has distinguished itself by establishing a series of specialized regional centers offering state-of-the-art technology and training in particular occupational fields.

It provides entry-level training through associate degree and non-degree programs, further training for adults through continuing occupational education, and customized training to meet the needs of employers.

The North Carolina system is very large, serving over 660,000 students in 58 colleges in 1989 with a budget of $450 million. The system is also comprehensive and integrated in several respects. It provides entry-level training through associate degree and non-degree programs, further training for adults through continuing occupational education, and customized training to meet the needs of employers. The last category covers, among others, the New and Expanding Industries Program (NEIP) for firms that are locating in the state or expanding existing operations, and the Focused Industry Training Program (FIT) that targets training to small, in-state firms to make them more competitive.

The state also operates federal employment training programs through the community college system, including JTPA, Title III Displaced Worker programs, and Carl Perkins Vocational Education programs. Additionally, the community colleges operate the state's own "Human Resource Development" program designed to provide additional assistance and counseling to disadvantaged students who wish to attend community college courses and degree programs.

The South Carolina system, with a budget of $150 million and a 1990 enrollment of 185,000 in 16 community colleges, also takes a comprehensive approach to training. Like North Carolina, South Carolina provides three categories of training: curriculum, occupational extension, and "special schools," the South Carolina equivalent of NEIP in North Carolina.

The state's technical training strategy over the past decade has centered around the development of state-of-the-art technology resource centers at different colleges across the state. Each center serves as a magnet for specialized technical fields: the eight centers currently in operation include: robotics, applied microelectronics, electromechanical maintenance, computer applications, advanced machine tool technology, and plastics.

The North and South Carolina cases raise several policy issues, including the relative merits of an integrated system; the advantages and disadvantages of publicly operated systems; the question of substitution; and the capacity for public systems to maintain state-of-the-art technology and training through public-private partnerships. See Case II in *Workplace Training Policy: Case Studies of State and Local Experience* for further details (Batt and Osterman, 1993).

By virtue of their character as educational institutions, community colleges are more likely to be sensitive to the need to provide general as well as firm-specific training.

There are a number of very positive aspects about these systems. Because they are large and stable, they are less subject to the uncertain fortunes and shifting priorities which seem to characterize many of the smaller stand-alone efforts. In addition, because they are large, they can provide a very wide and impressive range of programs. As the case studies make clear, these systems provide the same kind of small business assistance which characterizes Prairie State 2000, training subsidies to large firms of the sort found in the California ETP, as well as the range of educational services which one would normally expect from such institutions (Batt and Osterman, 1993). Indeed, community colleges can be sufficiently flexible so that they act as major contractors for other state programs, as is discussed in the description of Glendale Community College in California.

Second, by virtue of their character as educational institutions, they are more likely to be sensitive to the need to provide general as well as firm-specific training. Indeed, many of the criticisms which one hears from business-oriented trainers about community colleges—that they insist on teach-

ing material not directly relevant to firms—can be taken as evidence of the emphasis on general skills.

Community colleges are also better able to be sensitive to the distribution of their services. First, it is easier for them to encourage the enrollment of a wide range of people into their programs. Second, because the programs are not income targeted and because there is an identifiable and widely recognized certificate or graduating credential, people from disadvantaged groups who leave the program are less likely to be stigmatized. Distributional concerns can be even more directly addressed when, as is the case in North Carolina, the state funds supportive programs such as the "Human Resource Development" program and administers the JTPA system through the community colleges.

Some advocates of the separate state programs see community colleges as large bureaucratic institutions unable to respond quickly to the training needs of firms.

There are, however, a number of countervailing arguments concerning community colleges. Some advocates of the separate state programs see community colleges as large bureaucratic institutions unable to respond quickly to the training needs of firms. This is obviously not always true and will probably be less true over time, but clearly both the size and the multiple missions of community colleges render them less able to single-mindedly support one constituency.

A second problem with community colleges concerns their ability to remain on the technological cutting edge. Because they make substantial investments in equipment, they are more easily outpaced than other state programs which simply support on-site training in firms. Similarly, because they have investments in faculty—tenured and otherwise—they may find themselves unable to deploy the most qualified instructors. Again, none of this is always true: community colleges also conduct training on-site in firms using state-of-the-art equipment, and they make heavy use of adjunct faculty drawn from the private sector. One additional creative solution, illustrated in both the North and South Carolina cases, is the development of technology and training resource centers using community college facilities and privately-donated equipment.

Nonetheless, there is certainly some basis for the concerns raised above.

Community colleges may be more likely than other programs to provide general training, but they are certainly not immune to pressures toward substitution and subsidies. In North and South Carolina some of the programs we examined essentially act as the firm's personnel department: they run ads, interview and select a pool of trainees, and evaluate trainees on the basis of attendance and attitude. In one case, the college pays trainees a stipend which is provided by the firm but paid through the school so that the trainees are not on the firm's payroll. In the end, the firm selects which individuals from the pool it wishes to hire. In these Southern systems, there are numerous other examples of substitution/subsidies because the programs began as efforts to attract firms from the North by offering to underwrite training costs.[26]

A second problem with community colleges concerns their ability to remain on the technological cutting edge.

A final problem, from the federal perspective, is the uneven quality of community college systems across the nation. The ones we examined are among the most sophisticated and well developed with respect to enhancing the further training of adults. There are other states with systems of this quality but there are also states where it would be much more problematic to base policy upon the community college system. In such circumstances it would probably be far easier to build up a program based upon the new state agency model than to create a community college infrastructure of the sort discussed here.

In summary, where well-developed community college systems exist, they represent a very attractive delivery vehicle for expanding support for further training to adults. They are stable institutional structures which tend to be sensitive to the need for general training, able to incorporate a wide range of program types within a single bureaucratic structure, and more likely to be sensitive to serving under-served groups. Nonetheless, as was the case with the earlier programs, the concerns with bureaucratic rigidity as well as uniform quality across the

nation suggest that any federal initiative must extend beyond simple support for existing community college structures.

Joint Union/Management Training Efforts

In a number of cases, employees and employers have joined together to try to overcome skill deficiencies. In most such instances the programs were initiated in order to help dislocated employees find jobs in the external market and to help others find new careers within the firm. However, in some cases these programs have expanded to include a broader concern with training the workforce. The AT&T, CWA, and IBEW Alliance is among the leaders of such efforts.

In a number of cases, employees and employers have joined together to try to overcome skill deficiencies.

The Alliance for Employee Growth and Development (AT&T, CWA, and IBEW)

The AT&T, CWA, and IBEW Alliance for Employee Growth and Development is a joint labor-management training fund established under contract in 1986 to fund a wide variety of opportunities for members, both to upgrade skills for jobs within the corporation as well as to pursue new occupations on the outside. The fund serves workers displaced by corporate restructuring and downsizing as well as those that continue in the active workforce. While members gain from increased employment security, the firm benefits from improved employee morale and commitment to corporate productivity.

The Alliance funds training over and above that provided by AT&T as a normal part of doing business. The fund generates resources through a formula, initially set at $3.75 per employee per month and gradually raised to $9.50 in 1991. In its first four and a half years in operation, the Alliance allocated $80 million to training programs, including $6 million generated from external sources. With a union membership of approximately 108,000, the program had 122,000 enrollments in programs for 59,500 workers in a wide variety of training programs. Approximately 60 percent of the trainees have been part of the active AT&T workforce, and the remainder have been displaced workers.

Among the Alliance's unique features are its independent, non-profit status, its decentralized structure and "employee-driven" character, its flexibility in responding to the

training needs of a diverse workforce, and its reliance on joint worksite committees to administer the programs. The Alliance serves as a model of how joint-training efforts can develop into longer-term union-management strategies which link training to broader human resource policies, as in the establishment of local "Employee Resource Centers." Moreover, the significance of the Alliance's structural features is evident in its ability to have the support of both union and management despite conflicts in other areas of the collective bargaining relationship.

For union and nonunion workplaces alike, the Alliance provides a model for increasing worker participation in training activities, improving accountability through joint labor-management committees, and preventing substitution of training dollars. Case III in the case studies presents a fuller analysis of the Alliance experience (Batt and Osterman, 1993).

The key lesson, however, is in the benefits to be gained from building a role for employee voice into the program.

Among the elements which make the Alliance effective are its independent status, the strong emphasis on local control, and the role of the relatively small central staff in providing technical assistance. The key lesson, however, is in the benefits to be gained from building a role for employee voice into the program. When we discussed earlier the barriers to expanding further training for adults, an important concern was the lack of an internal constituency for training. Active employees form such a constituency.

The description of the Alliance program also indicates that the presence of local worker/management training committees increases employee participation in training. Participation increases both because the content of the training is more likely to be appropriate for employee needs and because the committee can help sell the training to the labor force.

By conducting employee surveys of training needs at each worksite, for example, Alliance local committees have helped employees set the training agenda. These surveys serve two functions. First, they identify training needs and interests that might otherwise be overlooked. Second, courses offered in response to employee requests tend to have better participation rates. At the Merrimack Valley Works plant in Massachusetts,

for example, the Alliance local committee developed an award-winning career counselling program for production workers in response to employee requests for help in long-range planning. Other employee-initiated training included courses in study skills for employees returning to school, courses in Spanish for English speakers to communicate better with Hispanic co-workers, computer and data-processing courses on AT&T's complex UNIX system, and workplace-based English as a second language.

Another benefit is that active employees are a check on substitution and subsidies. Employees know what kind of training firms have provided in the past and would be likely to provide in the future and hence they are in a position to guard against the use of supplemental training funds for these purposes. It is thus more likely that the training will represent a net addition to what would otherwise have been provided.

Given the low levels of union membership in the United States, it is obvious that these joint funds cannot literally be a model for a large-scale national training effort. Where unions exist it would be desirable to encourage these efforts but that cannot be enough. However, the lessons of local worker/management training committees are generally applicable even in nonunion settings and it will prove worthwhile to think about ways of incorporating such committees into other models of training delivery. Such committees could perform functions such as surveying employee needs, encouraging participation in skill development programs and acting as a lobby for management to expand training. A strong local committee would surely lead to increased training within the firm.

The lessons of local worker/management training committees are generally applicable even in nonunion settings and it will prove worthwhile to think about ways of incorporating such committees into other models of training delivery.

Part IV

Pulling It Together

The material presented in the foregoing and the case studies offered as a separate volume (Batt and Osterman, 1993) demonstrate what can be accomplished via an enhanced train-

ing policy. At the same time, we have identified concerns which federal policy must consider if it seeks to build upon these ongoing efforts. The case for an expanded federal effort seems to us to be clear and compelling but that effort must be based on a hard-headed understanding of how to gain the most benefit from the federal dollar.

We have already noted several ways in which the federal interest diverges from that of the states, particularly with respect to service for under-represented groups and avoidance of smokestack chasing efforts. In this section we want to discuss issues of targeting and system building. In our view, in order for a strong case to be made for new federal efforts, we need to design a program which meets what we see as the two greatest problems with the state efforts we reviewed.

We believe that funds should be allocated to states based upon both a set of targeting and systems-building criteria.

First, any new funds should be spent on uses which firms would not otherwise do on their own. That is, we need to find a way to deal with the subsidy/substitution issue.

Second, we need to find ways to use funds to build up an ongoing system which outlives any particular project. Given the fact that public resources devoted to training will always seem small relative to the need, projects should be selected on the basis of their multiplier effect: the extent to which they increase training efforts beyond the specific program which is funded. This can only be accomplished if attention is paid to system building.

To achieve these objectives we believe that funds should be allocated to states based upon both a set of targeting and systems-building criteria. We discuss each below. Before doing so, however, we should anticipate the inevitable complaint from the field: that these criteria simply represent just another set of troublesome and unnecessary federal strings. To see why this is not true, consider the opposite tack: expanding the distribution of federal funds to states to build up and continue just the kinds of programs we have examined here. It would be hard to defend such "stringless" spending. While many worthwhile efforts would be funded there would also be a consider-

able amount of needless subsidies to firms and uncertain long-term benefits in terms of a stronger employment and training system. In order to avoid this it is necessary to develop guidelines for any new federal dollars.

Targeting Criteria

There are several goals of these criteria. First, they are aimed at designing awards in a way which maximizes the chances that the funds will be spent on efforts which would not have otherwise taken place. Second, they are intended to encourage states to strive after broad objectives in their employment and training efforts.

With these goals in mind, federal support of state efforts, as well as direct federal programs, should be conditioned upon substantial efforts along the following lines:

Federal support of state efforts should be conditioned upon substantial efforts providing preference to training projects which incorporate workplace transformation objectives among the project goals.

- Supporting training in firms which would be otherwise unlikely to provide adequate training. These include small firms and firms which are experiencing difficulties but can be turned around. This is the strategy followed successfully in the Illinois Prairie State 2000 program.

- Providing some preference to training projects which direct resources to historically under-served groups. Examples are economically disadvantaged and front-line blue-collar workers.

- Providing preference to training projects which incorporate workplace transformation objectives among the project goals.

- Encouraging states to develop uniform occupational training standards which are employed by a range of training providers. These standards should include a substantial component of general, as opposed to firm-specific skills.

- Supporting states and programs which include as part of the application and approval process clear evaluation criteria for measuring the program goals which are agreed to by all parties.

It is worth drawing attention to the issue of standards. An important element of the German apprenticeship system is the nationally uniform occupational standards against which

youth in a given field are tested. This system insures quality and provides a yardstick for the public authorities to be sure that adequate training is provided. A strong case can be made for encouraging similar skill standards in this country.

In America where a given occupation (e.g., machinist) can be trained in one of any number of public and private training settings the case for standards is strong. It may prove very difficult to bureaucratically integrate high school vocational education, community colleges, JTPA programs, and private providers, but if they were all forced to train to a given standard then many of the benefits of integration could be gained.

German national uniform occupational standards provide a yardstick for the public authorities to be sure that adequate training is provided.

An additional advantage of standards is that they can ensure that training supported by public funds includes a core set of general skills, even when the training is provided by private firms. In order to assure portability, the standards should be national and an important role for the federal government would be to assist in their development (for a more extensive discussion of standards see Sheets (1991)).

These targeting criteria as a group will go a long way towards assuring high quality and towards using public dollars for purposes which would not otherwise be undertaken by the private sector. However, they do not speak to the issue of building a strong training effort which extends beyond any particular project grant. In order to accomplish this, federal dollars should also be directed towards states which build towards a genuine employment and training system.

These strategies for system building include providing enhanced support to states for activities such as the following:

- Supporting the formation and growth of industry associations and collaborative firm networks. These associations and networks can become very effective intermediaries in working with employers, particularly small ones, in expanding training as well as in accomplishing additional important human resource objectives.

- Encouraging organized forms of employee voice and participation around training issues. Our examination of the joint-training program run by AT&T, CWA, and IBEW shows the

many benefits to be gained when employers and employees work together on these issues. It would be desirable to find ways to extend this model to nonunion settings by providing incentives for the establishment of employer/employee joint-training committees.

- Supporting serious efforts to link the kinds of training programs discussed in this report with JTPA and JOBS efforts. This might include experimentation with allowing localities to "decategorize" training dollars in order to build up strong general purpose systems.

We have already discussed at some length the advantages of employee voice in building more effective training institutions. It is also worthwhile to further explore the role that employer associations and networks can play in the provision of training.

The importance of employer consortia is that they have the trust of member firms and they can serve as a broker between the state and independent small firms.

In our research we uncovered a number of cases in which employer associations play a central role. The importance of employer consortia is that they have the trust of member firms and they can serve as a broker between the state and independent small firms. State bureaucracies generally do not have the resources to administer thousands of small contracts, and small firms usually do not have the resources to devote to pursuing complex grants with the state. Employers' associations meet the needs of both public agencies and small businesses. Public administrators solve problems related to the equitable distribution of funds between large and small firms. Small firms gain access to programs in which they would otherwise be unlikely to participate.

In addition, the better employer associations house considerable expertise regarding training and technology and they can also combine assistance in the area of training with assistance in other fields (e.g., marketing) and hence get member firms to take the training message more seriously. The difficulty is that most associations are probably little more than lobbying groups and thus the public authorities need to consciously engage in institution building. It is also important to find a way to build employee voice into this set of institutions. These qualifications aside, effective associations which deliver

training support will go a long way towards achieving the objectives we have laid out.

The examples from the case studies (Batt and Osterman, 1993) suggest that there are at least two types of training consortia. In the first model, employer associations develop and initiate training programs and the government plays a largely passive funding role. The Los Angeles Chapter of the National Machining and Tooling Association and the Management Association of Illinois illustrate this approach. This model relies on the prior existence of associations that are active and well-organized. This description probably characterizes a minority of associations in the country. In California, for example, the state has sought to address the problem of lack of small-firm participation in ETP by actively seeking the involvement of associations such as the building trades and sheetmetal workers, and private industry councils. The experience of California, however, is that these associations are difficult to find. In general, small business is not organized. To extend this model, employment training agencies would have to play a more active role in organizing associations.

The better employer associations house considerable expertise in training and technology and can also combine assistance in the area of training with assistance in other fields and get member firms to take the training message more seriously.

The second model is built on this assumption: that public agencies must play a more active role in facilitating the development of employer and other associations. The model also involves broadening the participation of local organizations to include not only firms, but community groups, unions, educational institutions, and a range of government bodies. The MAP case (described in detail in Case IV, Batt and Osterman, 1993) illustrates this approach. It is considerably more difficult to accomplish than the first, but offers the possibility for building a broader political base to weather funding crises and a constituency to deal with serving a range of groups.

With these considerations in mind, we believe that program funds should be expended in a way which builds up the role of these associations and networks, either strengthening ones which already exist or working to build institutions where there are already associations now.

A Training Tax

There is now considerable discussion of using a training tax, or grant/levy scheme, to accomplish twin goals: to encourage firms to provide more training to their incumbent workers and to finance government training programs. Such a scheme is proposed in the High Skills, Competitive Workforce Act (S.1790). Under these programs firms are taxed a certain percentage of their payroll for training. If the firm actually provides that level of training, the tax is refunded. If the firm does not provide the required level of training then the tax (or the difference between the actual level and the required level) is paid into a government fund which then uses the resources to support public training policies. This policy has been implemented in the past in England and France.

Public agencies must play a more active role in facilitating the development of employer and other associations and broadening the participation to include community groups, unions, and educational instituions.

The great attraction of a scheme along these lines is its simplicity. If firms for whom the constraint is binding (i.e., who spend less than the threshold) comply, then the nation's training is enhanced without the problems inherent in the creation and delivery of a government program. Furthermore, one might expect that most firms would indeed comply since if they do not, then they lose the funds while if they do comply they receive the payoffs their investment in training will yield. Finally, since there will inevitably be some tax collection, the plan becomes a convenient financing mechanism for the kind of programs we discuss in this report.

These arguments are powerful yet there are reasons for concern. The most central problem is whether such a scheme can address the central training problems we face: the relative lack of training in small and medium compared to large firms. A second issue is how to link the tax scheme with workplace reform. Any training tax scheme will have to specify the kinds of expenditures which qualify, i.e., meet the standard, and it seems almost certain that informal on-the-job training (OJT) will not count. This is because such expenditures are impossible to monitor. In France, for example, only formal training delivered by trainers is counted as meeting the expenditure

target. This, however, immediately introduces a bias to large firms since smaller firms tend not to have the staff or resources to provide formal training. The consequence is that small firms would be more likely to pay the tax.

The tendency of small firms to pay in more than do large ones will be exacerbated by their relative inability to receive back grants from the training fund. This is because small firms typically lack the managerial resources to apply for grants from government programs and because the government normally finds it easier to administer relatively few large grants than numerous small ones.

The most central problem is whether a training tax scheme can address the relative lack of training in small and medium compared to large firms.

The French and British experience suggests that these concerns are well founded. In France, the grant/levy scheme which has been in operation since 1971 currently requires training expenditure of 1.1 percent of payroll (it began at 0.5 percent), and has been the subject of careful evaluations.

The good news in the French experience is that the average amount spent per firm on training grew a great deal over the period since the tax was implemented. It is certain that not all of the credit goes to the tax: first, many firms spent a good deal more than the tax required and hence the tax did not act as a binding constraint. Second, in other nations (for example, America) which lacked such a tax, average firm spending on training also increased over the period (Conference Board 1985). Nonetheless, the tax deserves some credit. Just over 20 percent of firms between 500 and 1,999 employees and just under 20 percent of firms 2,000 and over spend between 1.1 and 1.5 percent of their payroll on training. One might speculate that many of these were pushed over the limit by the program. In addition, just under 30 percent of the 500-1,999 sized firms and just under 15 percent of the largest firms spend less than 1.1 percent and presumably pay into the training funds (Gehin 1986, p. 80).

The bad news, however, is that the gap between the training expenditures of large and small firms did not change over this period. In 1972 firms with between 20 and 49

employees on average spent 0.62 percent of their payroll on training, while firms with 2000 or more employees spent 2.5 percent. By 1984 the gap had widened to 1.22 percent and 3.45 percent respectively. In the large firms 38.3 percent of employees received training while in small firms the rate was 9.7 percent (Gehin 1986, p. 81).

Not only has the French system not closed the gap between the large and small firms but it also became a transfer system from small to large. This is because small firms paid more in taxes but they received less in grants (for the reasons cited above). Hence for every 100 francs deposited into the fund small and medium firms received 50 francs back while large firms received 120 back.

A second issue is how to link the tax scheme with workplace reform.

The British program was initiated in 1964 and abolished by Prime Minister Thatcher in the late 1970s. The British system was different than the French in that the levy/grant scheme was administered on an industry by industry basis by Industrial Training Boards. However, with respect to the impact on small firms the experience seems to parallel that in France. A Parliamentary committee (the Bolton Committee) evaluated the program in 1971 and concluded that "...the cost of claiming grants, the drain imposed by the levy on small firms...are in our view fundamental difficulties which...will always prevent making a worthwhile economic impact on the needs of small firms under the levy/grant system" (Senker 1990, p. 16).

On balance, then, the experience overseas must give considerable pause to advocates of a grant/levy scheme. Of additional concern is the potential of the program for stimulating creative tax avoidance. Either the government establishes a substantial bureaucracy to monitor compliance or else it must accept each firm's accounting for training costs. Even with the exclusion of OJT this is a murky area.[27]

A final concern lies in the relationship between training and work reorganization. Throughout this report we have emphasized that a central rationale for employer-centered

training lies in encouraging firms to reorganize their work systems in the direction of transformed organizations. However, the training tax schemes are silent on this and simply aim to achieve a given expenditure on training. The advantage of funneling program expenditures through local agencies is that these agencies can make work-organization a criteria in their funding decisions. It is much more difficult to build this into a grant/levy scheme.

The advantage of funneling program expenditures through local agencies is that these agencies can make work-organization a criteria in their funding decisions.

The grant/levy scheme proposed in the pending Senate legislation does contain one feature which makes it an improvement upon European versions: it requires that the training expenditure target be focused upon front-line workers. In this way it seeks to shift the bias of large firms towards limiting training to white-collar workers and managers. In addition, if the recommendations of this report concerning the strengthening of small and medium firm networks are implemented then it is conceivable that the anti-small and medium-size firm bias of the grant/levy scheme can be ameliorated. This is because the networks can apply for support and hence overcome the difficulty facing individual firms in dealing with the system. An additional improvement would be to require that employee training councils be established in firms which receive grants from the fund. Under these conditions the program may be worth testing but it is certainly no substitute for a more active policy.

Conclusion

We have discussed the case for workplace-centered training aimed at broad concerns of competitiveness and work-organization. Such a policy might consist of both programs aimed at youth—the apprenticeship proposals—as well as programs targeted at employed adult workers. Although we have not had much federal experience with efforts along these lines, there are diverse state and local efforts and we have examined them carefully to draw lessons for a possible federal policy.

We believe that a strong case can be made for workplace initiatives as we hope the discussion makes clear. We also

believe that there is considerable cause for caution. For each of the programs and proposals we have discussed we have identified concerns and dangers as well as strategies for avoiding these problems and for building upon best-practice examples.

It is also important to keep in mind that in this report we have focused upon only one element of employment and training policy. The kinds of programs discussed here must be fit together with a wider range of initiatives. These include traditional topics such as training for the economically disadvantaged and improvements in the Employment Service as well as further-reaching concerns such as school reform. Finally, as we have emphasized several times, training is only one element of the larger puzzle of how to encourage firms to transform their work organization in the direction of more secure, higher paying, and more productive systems. Some of the ideas discussed in this report, such as industry associations, employer networks, and employee voice, are parts of the bigger picture. In addition, more attention needs to be given to issues such as corporate governance. Nonetheless, we believe that if the ideas developed in this report are given a chance, then important progress can be made.

An additional improvement would be to require that employee training councils be established in firms which receive grants from the fund.

Appendix Table

Studies of the Effects of Skills and Training on Economic Performance

Econometric Studies

Bartel and Lichtenberg (1987)	Estimates cost-functions and labor-demand models for a panel of 61 U.S. manufacturing industries over a thirty-year period. Examines whether the demand for highly educated labor (defined as more than a high school degree) increases with the newness of the technology and the R&D intensity of the industry. Finds that it does, hence concludes that high-skill labor is complementary to new technology. This paper is in the tradition of Zvi Griliches and a long line of subsequent research which found that skilled labor is complementary to capital, while unskilled labor is substitute.
Brown and Medoff (1978)	Estimates production functions for a cross section of American industries which includes controls for the education level of the labor force. These education variables are significantly related to output.
Daly (1986)	Working with industry-level cross-sectional British and American data Daly estimates production functions for both countries and finds that skill level of the workforce—measured by education—has a positive effect on productivity.

Matched Comparisons

Jaikumar (1986)	Thirty-five flexible manufacturing systems in the U.S. and sixty in Japan. The Japanese produced more different parts per machine and also produced at a higher volume. There were substantially higher skill levels among machine operators in Japan than in the U.S.
Maurice, Sorge, Warner (1980)	A matched comparison of manufacturing firms in Britain, France, and Germany. The match was based on product and technology. German firms had more production workers relative to white-collar and the production workers moved more easily among different tasks. Less supervision was required in Germany. There was more training in Germany.

Hartman, Nicholas, Sorge, Warner (1983)	Examines CNC technology in six German and six British plants. Found German operators engaged in considerably more programming than in Britain. Along other dimensions German workers were also much more involved in the production process and there was a greater continuum of skill among the workforce while in Britain the labor force tended to be polarized between high- and low-skill groups.
MacDuffie and Krafcik (forthcoming)	Working with international data on automobile assembly plants which contain information on labor productivity and product quality the authors estimate a production function which demonstrates that various measures of the degree of worker involvement and participation are positively correlated with productivity and quality. High-quality and high-productivity plants also do more training.
Steedman and Wagner (1987)	Compares British and German clothing manufacturing firms. The major source of German productivity advantage is the greater ability of German workers to maintain machinery and this in turn is related to higher levels of training. In addition, German workers had responsibility for quality control while in Britain supervisors were responsible.
Daly, Hitchens, and Wagner (1985)	Examines 45 pairs of matched British and German plants in six industries. An important source of the productivity advantage of Germany is that German foreman are more broadly trained whereas in Britain there are, in addition to foremen, quality controllers, maintenance men, and production planners.
Tyre (1990)	Examines the introduction of new manufacturing technologies in plants owned by one firm but located in the United States, Italy, and Germany. Start-up time was longer in the U.S. plants and operating improvements were lower. These differences were in part related to systematic national differences in the importance given to continuous quality improvement, the involvement of all levels of the workforce in the production process and in quality, and the extent of personnel development and cross-training.

End Notes

1. For example, the Commission on the Skills of the American Workforce, the Secretary's Commission on Achieving Necessary Skills, and the Commission on Work Based Learning.

2. National Governors' Association, *Excellence At Work: A State Action Agenda* (1991) and National Commission on Employment Policy and the National Governors' Association, *State Financed, Workplace-Based Retraining Programs* (1989).

3. See Kochan and Osterman (1991). A complication confronting the by now conventional wisdom is that the Japanese do not have a strong public employment and training system although they do have very intensive training within firms.

4. In fact, the federal government engages in a wider variety of training related activities than the foregoing characterization implies. For example, the Department of Labor's Bureau of Apprenticeship and Training spends about $16 million a year certifying apprenticeship programs; the Carl Perkins Vocational Education Act appropriates approximately $1 billion a year for support of state vocational education programs; and, the Department of Labor supports nonincome-targeted dislocated-worker training. We discuss below how the programs which we focus upon in this paper might be related to these other efforts. However, when all is said and done, the federal employment and training system is substantially income targeted.

5. The U.S. Department of Labor's Office of Work Based Learning has established a number of demonstration programs with this aim and the Sloan Foundation has also supported efforts along these lines. A number of states, including Oregon and California, are considering modifying aspects of the high school curriculum in order to establish model youth apprenticeship programs.

6. See National Governors' Association (1991) for a discussion of many other initiatives.

7. The arguments in paragraphs that follow are developed at greater length in a number of places including Piore and Sable (1984); Kochan, Katz, McKersie

(1986); and Osterman (1988). The arguments were given wider currency by the Commission on the Skills of the American Workforce (1990).

8. We write "personnel policy or collective bargaining" to indicate that here, and throughout the paper, our comments about transformed human resource management (HRM) systems apply to both the union and the nonunion sectors.

9. The discussion in this section is drawn from Kochan and Osterman (forthcoming).

10. The GED (General Education Development) score is a standardized measure of the amount of education a job requires. It, along with other measures of skill, is used in the Dictionary of Occupational Titles.

11. This latter approach can understate the impact of training since one effect of having a trained labor force may be to provide a firm with the opportunity to shift to a different technology. Hence holding technology constant eliminates one gain from training.

12. This is explicit in the title of the influential Grant Foundation report, *The Forgotten Half: Pathways to Success For America's Youth and Young Families.*

13. Of course, some youth may have such strong interests or aptitudes that this is appropriate, but recall that all of these proposals are aimed at the fifty percent who do not go to college.

14. Roughly fifty percent of German youth change employers when they make the transition from the dual system into regular work. Most of this job changing involves movements out of the small-firm sector which provides a disproportionate share of dual system training. Clearly the youth who receive dual certification but change employers are better off than the roughly ten percent of the cohort who do not receive the certification. However, they are disadvantaged relative to youth who remain in their fields of training or with the same employer.

15. This might be less of a problem for demonstration programs since they could select a small group of youth highly committed to one field.

16. In England a number of companies have recently stopped participating in the Youth Training Scheme because of the recession.

17. Unless firms are "compensated" for training in the form of a low wage, the already present tendencies towards poor-quality training will be intensified. However, if the wages are too low, this will raise concerns about substituting youth for adult workers. This dilemma will be difficult for the programs to resolve.

18. The greatest failure in this regard is the Entitlement Program implemented under the Youth Employment Demonstration Projects Act (YEDPA), but there have been other efforts which have not worked out.

19. There are two kinds of evidence in this regard. The Manpower Demonstration Resource Corporation evaluation of JOBSTART, an intensive education and training program for dropouts, shows that the program did succeed in increasing the attainment of alternative credentials such as GEDs but that this had few labor market gains. Second, Heckman and Cameron (1992) have deployed national data to demonstrate the very weak rate of return to GEDs relative to regular high school degrees.

20. For a review of estimates see Kochan and Osterman (1991) and Office of Technology Assessment (1990).

21. For data on the size and distribution of these programs see Creticos, Duscha and Sheets (1990).

22. Originally the California program was financed from the Unemployment Insurance (UI) base by reducing the UI tax by 0.1 percent and levying an equivalent training tax. Subsequently the UI tax rate has been independently set and thus ETP is best thought of as financed by a straight training tax.

23. For an overview of these efforts see Creticos and Sheets (1990).

24. All but 16 of the 53 programs summarized by Creticos, Duscha and Sheets (1990) have budgets below $5,000,000.

25. If high school vocational education does poorly can we expect that community colleges will do any better? This is a particularly important question given that community colleges account for roughly half of all post-secondary-school enrollments and play an increasingly prominent role in discussions of how to improve the quality of American training. There are very few credible evaluations of community colleges however the most comprehensive effort is Grubb (1990). He finds that there is no rate of return to community college certificate programs for men and that women gain only in business and technical courses. The rate of return to community college degrees is sensitive to what controls are included in the model but in general is positive and non-trivial for both men and women. Simply taking community college courses without getting the degree does not yield benefits. It should be kept in mind, however, that Grubb's data are the high school class of 1972 who entered community colleges before those institutions' recent essential abandonment of the college transfer function and widespread acceptance of vocational training as a mission. It is likely that the overall quality of vocational training has gone up during this period. On the other hand, non-completion rates have also increased and Grubb's results suggest that such students gain few benefits.

26. An additional unfortunate aspect of these programs is what is often perceived as their anti-union bias.

27. The Senate legislation speaks of "organized instruction" but the meaning of this is unclear to say the least.

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